

I claim:

1. A method of treating a liquid or a slurry of a liquid with an ultrasonic energy comprising:

5 providing a movable endless member (214) for treatment of a slurry or liquid, being permeable to the liquid or a liquid portion of the slurry (204), and an ultrasonic transducer (236) disposed a distance (d4) from the member (214), a movable endless member (230) disposed above the member (214) and an ultrasonic transducer (234) disposed at a distance (d3) from the member (230);

10 moving the endless members (214, 230);

feeding the slurry (204) between the members (214, 230); and the transducers (234, 236) generating pressure pulses through the members (230, 214) to form imploding bubbles (227) in the

15 slurry disposed between the members (214, 230), the bubbles (227) having a diameter (d5) that is greater than the distance (d3) between the transducer (234) and the member (230) and the distance (d4) between the transducer (236) and the member (214) to prevent the bubbles (227) from being captured between

20 the transducer (234) and the member (230) and between the transducer (236) and the member (214).

2. The method according to claim 1 wherein the method further comprises feeding the slurry (204) to a fermentation tank

25 (248)

3. The method according to claim 2 wherein the method further

comprises creating an anaerobic environment in the fermentation tank (248) prior to receiving the slurry (204).

4. The method according to claim 1 wherein the method further  
5 comprises gradually narrowing a gap (233) until a gap (235) is reached between the members (230, 214) and forming an angle (alpha) between the member (214) and the member (230) so that the members (214, 230) are wedge-shaped.

10 5. The method according to claim 3 wherein the method further comprises collecting protoplasm from collapsed bacteria and other colloidal substances from the ultrasonic treatment of the sludge slurry in the drain water (240) bring it into a mixer (238) and mixing it with the ultrasound treated slurry  
15 falling down into the mixer (238) from the member (214).

6. The method according to claim 5 wherein the method further comprises removing air from the slurry from the mixer (238) prior to pumping the slurry to the fermentation tank (248).

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7. The method according to claim 2 wherein the method further comprises circulating the slurry (250) from the fermentation tank (248) in a circulation conduit (262) and removing biogas from the slurry before pumping the slurry back into the  
25 fermentation tank.

8. The method according to claim 1 wherein the method further

comprises sending the slurry (250) in the fermentation tank back to the member (214) and treating the slurry (250) with ultrasound from the transducers (234, 236).

5     9. The method according to claim 8 wherein the method further comprises ultrasound treating the slurry (250) prior to sending the slurry (250) to the press unit (270).

10    10. A method of treating a medium with an ultrasonic energy comprising:  
providing a first movable endless member (214) for treatment of a medium, and an ultrasonic transducer (236) disposed a distance (d4) from the member, a second movable endless member  
15    (230) disposed opposite to the first member (214) and ultrasonic transducer (234) disposed at a distance (d3) from the second member;  
moving the first and second endless members;  
feeding the medium between the first and second members; and  
20    the transducers generating pressure pulses through the first and second members to form imploding bubbles in the medium disposed between the members, the bubbles having a diameter (d5) that is greater than the distance (d3) between the transducer (234) and the second member (230) and the distance  
25    (d4) between the transducer (236) and the first member (214) to prevent the bubbles from being captured between the transducer (234) and the second member (230) and between the

transducer (236) and the first member (214).